

WE CLAIM:

1. A method of limiting the maximum speed of an internal combustion engine that drives a tool, including the steps of:

providing a unit for controlling an ignition time point in a crankshaft angle range prior to an upper dead center position of a reciprocating piston of the internal combustion engine, wherein above an operational speed, ignition is interfered with to keep the speed below a maximum speed; and

in a range between the operational speed and the maximum speed, shifting the ignition time point in a direction towards the upper dead center position of the piston in such a way that in the vicinity of the maximum speed, the ignition time point is close to the upper dead center position and engine output is reduced to a prescribed value that corresponds approximately to a frictional horsepower for the driving of the tool.

2. A method according to claim 1, wherein an ignition time point curve is provided that is non-linear.

3. A method according to claim 1, wherein an ignition time point that is set in the vicinity of the maximum speed and is in the vicinity of the upper dead center position, is kept essentially unchanged for a speed range that is above the maximum speed.

4. A method according to claim 3, wherein the speed range ranges from zero to about 1000 rpm.

5. A method according to claim 1, wherein said operational speed is in a speed range in which a quotient of a change of the ignition time point in degrees crankshaft angle divided by a change of the speed in rpm is greater than 0.05.

6. A method according to claim 1, wherein a speed range between the operational speed and the maximum speed is about 150 to 1500 rpm.

7. A method according to claim 6, wherein the speed range is about 500 rpm.

8. A method according to claim 1, wherein the ignition time point between the operational speed and the maximum speed is shifted by about 20 to 35° crankshaft angle in the direction toward the upper dead center position of the piston.

9. A method according to claim 8, wherein the ignition time point is shifted by about 30° crankshaft angle.

10. A method according to claim 1, wherein the crankshaft angle near the maximum speed is about 5° prior to the upper dead center position.

11. A method according to claim 1, wherein the engine is a scavenging engine having a preferably layered scavenging, or is an engine having a different pronounced stratified charge technology.

5 12. A method according to claim 1, wherein an ignition time point curve is switchable by a user in such a way that after switching, the operational speed, and preferably also the maximum speed, are lowered.